FOREST INSECT CONDITIONS
LASSEN NATIONAL FOREST - CAL-CONE HARVEY UNITS

September 1952

APPRAISAL SURVEY

An appraisal survey was made of the Cal-Cone - Harvey Mountain units of the Lassen National Forest on September 8 to 12 by Messrs. Stevens, Stephens, and Downing, under the direction of M. M. Furniss, of the Berkeley Forest Insect Laboratory. The purpose of the survey was to determine the extent and severity of damage by the western pine beetle and the Jeffrey pine beetle in the virgin stands of ponderosa and Jeffrey pine in these areas, to serve as a basis for control action contemplated this fall.

The survey method consisted of 1/2-acre sample plots established at 5-chain intervals along cruise lines run generally at right angles to the general contour, with a sample coverage of 2-1/2 percent of total area (Fig. 1). A preliminary test of this method at the Blacks Mountain Experimental Forest in the spring of 1951 indicated that this intensity of coverage on 16,000 acres would yield loss information on an annual basis subject to a sampling error of about 25 percent at the 95-percent level. Loss information on each plot was segregated into three categories: 1952 infested trees, 1952 abandoned trees, and 1951 abandoned trees. Tree species, diameter and site were also recorded. Volume figures were determined from local volume tables in use at Blacks Mountain.

CHARACTER OF THE 1952 INFESTATION

The 1952 infestation is characterized by heavy epidemic losses in ponderosa and Jeffrey pine caused by the western pine beetle Dendroctonus brevicomis and Dendroctonus jeffreyi. The general level of loss appears to be heavier than that for the previous season.

SPECIFIC AREAS APPRAISED

The specific areas appraised in the survey are shown on Figure 1. These include the Cal. Mountain unit, containing about 5000 acres, exclusive of burned areas; and the Cone-Harvey Mountain unit, containing about 11,000 acres.

ESTIMATED LOSSES

Table 1 presents the estimated total number of insect-killed trees, average volume per acre, and total volume by the following categories:

Infested 1952. Abandoned 1952. Abandoned 1951. and total salvable. It is estimated that these losses will be as follows: Cal. unit infested 1952. 166 board feet per acre, or a total of 709 trees containing a volume of 833,000 board feet. The total salvable volume is estimated at 365 board feet per acre or a total of 1499 trees containing a volume of 1,842,000 board feet. For the Cone - Harvey unit: infested. 140 board feet per acre or a total of 1092 trees containing a volume of 1,546,000 board feet. with the salvable volume of 326 board feet per acre, or a total of 2471 trees containing a volume of 3,595,000 board feet. For all three units the estimate is: infested. 149 board feet per acre or a total of 1801 trees containing a volume of 2,379,000 board feet; with total salvable 340 board feet per acre or a total of 3950 trees containing a volume of 5,440,000 board feet. These estimates are subject to a sampling error as indicated in the footnote of the Table.

CONTROL RECOMMENDATIONS

In confirmation of tentative recommendations made verbally by Messrs. J. W. Bongberg, C. B. Eaton, and R. C. Hall, of the Laboratory on July 31 to Supervisor V. A. Parker and E. M. Beeson, of the Lassen National Forest, the following action is advised:

1. Salvage logging of infested trees in the Cal. unit during the fall and winter of 1952, or early spring of 1953; the infested trees to be removed not later than May 1, 1953.

2. If for any reason it becomes apparent this fall that sanitation-salvage logging scheduled for the Cone - Harvey unit next spring will not materialize, this unit also should be treated by salvage-logging of infested trees as recommended under 1.

3. A thorough spotting job of the Cal. Unit should be done as soon as practical, with only the infested trees marked for removal. The option of removing the abandoned salvable trees might be given to the operator providing that this does not delay the over-all removal of infested trees by May 1, 1952.

DISCUSSION

In the control operation recommended it is extremely important that all infested trees be removed. This will mean a very careful job of spotting prior to cutting, because many of the currently infested trees have not yet shown signs of fading. This is particularly true of the Jeffrey pine, and the spotting crew will have to be well trained to recognize evidence of current infestation in trees not faded. For this reason the Laboratory will assign an experienced man to train the spotters and to help plan and supervise the job as it progresses. The tentative scheduling of starting the spotting is set for September 29, providing the contracts for logging the infested trees can be consummated by that date.

Berkeley, California
September 17, 1952

By: Ralph C. Hall, Entomologist
and
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TABLE 1.

APPRAISAL SURVEY - CAL-CONE-HARVEY UNIT AT LASSEN NATIONAL FOREST

ESTIMATED LOSS *

September 1952

UNIT	Timbered Acres	Infested 1952			Abandoned 1952			Abandoned 1951			Total Salvable		
		No. Trees	Vol. Acre	Total Vol. Bd. Ft.	No. Trees	Vol. Acre	Total Vol. Bd. Ft.	No. Trees	Vol. Acre	Total Vol. Bd. Ft.	No. Trees	Vol. Acre	Total Vol. Bd. Ft.
CAL	5000	709	166	833,000	342	76	380,000	418	126	629,300	1499	368	1,842,000
CONE-HARVEY	11,000	1092	140	1,546,000	431	47	517,000	948	139	1,535,000	2471	326	3,598,000
ALL UNITS	16,000	1801	149	2,379,000	783	56	897,000	1366	135	2,164,000	3950	340	5,440,000

*Estimated loss based upon a cruised sample of approximately 2-1/2 percent

The cruised figures of infested trees and volume have been increased by 25 percent to allow for the time of year of spotting.

The above estimates are subject to the following sampling error at the 68 percent confidence level:

Cal Unit infested volume		± 33 percent	Cal unit total salvable volume		± 19 percent
Cone-Harvey	do	± 28 percent	Cone-Harvey	do	± 16 percent
All Units	do	± 21 percent	All Units	do	± 12 percent

Appraisal Survey

CAL-CONE-HARVEY-MTN. TRACT

Lassen N.F.
September, 1952

Figure 1